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ABSTRACT

The therapeutic swimming program of the Albuquerque (New Mexico) Public Schools (APS) for severely handicapped students was evaluated to determine its impact and effectiveness. The program is funded under Public Law 94-142, Education for All Handicapped Children Act. Data were collected by interviews, surveys, review of records, and observation. A total of 133 APS school personnel (118 special education teachers and teachers aides and 15 administrators) returned usable surveys--57 from elementary schools, 36 from middle schools, 30 from high schools, and 10 from area offices. Approximately 620 students in Side-by-Side, special education housed on public school campuses, participated. The program was intended to help students physically, recreationally, and socially, with an emphasis on developing self-confidence and self-care skills. The results indicate that about 74% of the staff thought physical and recreational benefits were derived. Self-confidence increased and self-care skills improved. About 66% of the survey respondents thought the benefits of the swimming program outweighted students absence from usual instruction was well spent. These were suggestions, and they were only examples. (SLD)

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EVALUATION REPORT

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P.L. 94-142
Therapeutic Swimming Program

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ALBUQUERQUE PUBLIC SCHOOLS

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ALBUQUERQUE PUBLIC SCHOOLS

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Teachers Involved in the APS
Therapeutic Swimming Program

April 1987

EVALUATION REPORT

P.L. 94-142
THERAPEUTIC SWIMMING PROGRAM

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EVALUATION REPORT

P.L. 94-142
THERAPEUTIC SWIMMING PROGRAM

ADMINISTRATIVE SUMMARY

Program Description

Albuquerque Public Schools (APS) elected to use some of its Public Law 94-142, Education for All Handicapped Children Act-Part B (P.L. 94-142) monies to provide therapeutic swimming for severely and profoundly handicapped students. Approximately 620 Side-by-Side[1] program students participated in the P.L. 94-142 Therapeutic Swimming Program. Students participating in the P.L. 94-142 Therapeutic Swimming Program were transported by APS to the University of New Mexico's (UNM) Therapeutic Pool.

According to APS administrators, adapted physical education teachers, special education teachers, and therapists, the P.L. 94-142 Therapeutic Swimming Program was intended to supplement the adapted physical education curriculum. More specifically, the P.L. 94-142 Therapeutic Swimming Program was designed to help students improve physically, recreationally, and socially. Some school sites also focused upon developing students' self-confidence, working on self-help skills (e.g., dressing), or training for Special Olympics, depending on the specific needs of the students.

Study Methodology

The study was designed to evaluate the impact of the program on students and staff, to determine the benefits of the program, and to develop suggestions regarding what could be done to make the program more effective. The study also addressed the overall effectiveness of the program. Data for this study were collected by four methods: interviews, review of records, observations, and survey research.

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(1) Side-by-Side programs serve severely and profoundly handicapped students with special educational needs. The Side-by-Side programs reside on public school campuses along with facilities which house non-handicapped students. (APS Side-by-Side Curriculum, 1985, p.v)

Findings

The major findings of the study were:

(1) Approximately 74% of APS Side-by-Side staff responding to the survey indicated that, in their view, students derived physical and recreational benefits from the swimming program. Physical benefits noted by respondents included providing more opportunities for movement for some students and teaching swimming skills to other students. Recreational skills included developing leisure-time skills (ranging from water play to swimming skills) for students to use now and later in life.

(2) Survey respondents indicated that students derived other benefits from the P.L. 94-142 Therapeutic Swimming Program as well. These included increased self-confidence and improved self-help skills (e.g., dressing and toileting).

(3) The survey respondents' perceptions of the overall benefits of the swimming program were mixed. While 77 or 66.1% of the respondents felt the benefits of the swimming program outweighed students' absence from their usual instructional program, 34.8% of the respondents felt that students should not be taken from the regular educational program. Of these 34.8% respondents, nearly two-thirds were secondary teachers.

(4) Respondents were asked for suggestions "...to make the program stronger/more effective." Responses included:

   (a) Provide intensive inservices on proper lifting techniques to lift students in and out of the water and/or on and off changing tables to prevent injury to students and staff.

   (b) Provide training for teachers and aides on disability-appropriate aquatic activities.

EVALUATION REPORT

P.L. 94-142
THERAPEUTIC SWIMMING PROGRAM

Background And
Program Description

The Albuquerque Public Schools (APS) elected to use some of its Public Law 94-142, Education for All Handicapped Children Act-Part B (P.L. 94-142) monies to provide therapeutic swimming to selected special education students. The objective of the program, as stated in the 1986 Plan, was to:

> Provide therapeutic swimming for approximately 677 Side-by-Side handicapped students. (1986 Plan, APS Application to the New Mexico State Department of Education for EHA-B Funds, p. 41.)

Students in Side-by-Side schools were chosen for this program because they were severely and profoundly handicapped. Side-by-Side schools served students ages 5 through 21. Students in these programs required intensive programming and tended to require extensive additional services such as speech and language therapy, physical therapy, occupational therapy, and adapted physical education.

According to APS adapted physical education teachers and special education administrators, the P.L. 94-142 Therapeutic Swimming Program was designed to help students improve:

(1) physically - e.g., by enhancing physical fitness for some children or providing more opportunities for movement for other students.

(2) socially - e.g., by providing an opportunity to interact with other students.

(3) recreationally - e.g., by providing a recreational outlet and an opportunity to develop leisure-time skills.

Research Perspective. Literature indicated that aquatic programs have for decades been a part of services for the handicapped. Christie (1985), in a review of research on the topic, concluded:

> Swimming offers the best range of physical activity, one that can be applied to the widest range of disabilities. It is especially beneficial to those that are non-ambulatory or severely retarded-whose physical activity is limited or non-existent. (p. 24)

Research also supported aquatics for the handicapped. According to Christie (1985), studies by the American Red Cross (1976), Richards and Siggiqui (1980), and others determined that swimming increases muscle strength, flexibility, and range of motion around joints. Christie (1985) cited other studies which documented increased development of self-confidence, body awareness, and balance in handicapped children who participated in swimming programs.

Other research, such as that by Christie (1985), Golland (1981), Huss (1981), Piper (1986b; 1986c), and Heyward (1986) underscored the value of properly supervised aquatic activities for the handicapped. Piper (1986c) and Lewis and Martin (1985) also demonstrated strong documentation from the medical community for the value of adapted aquatics.

Program Activities. Students participating in the P.L. 94-142 Therapeutic Swimming Program were transported to the Therapeutic Pool at the University of New Mexico (UNM). APS used P.L. 94-142 funds to pay the UNM lifeguards and to contract with bus companies to transport students from the Side-by-Side schools to the Therapeutic Pool at UNM.

The UNM Therapeutic Pool had several special features. These included:

- warm water held at a constant temperature of 92°- 98°
- 4 ft. maximum depth
- a ramp, with handrails, which goes directly into the water for those who cannot climb stairs or for those who must use a wheelchair to get into the water
- a portable Hoyer Lift (a hydraulic lift to raise and lower severely physically handicapped students)
- UNM Adapted Aquatics students to assist in teaching selected classes

During interviews, adapted physical education teachers observed that the primary goal of the P.L. 94-142 Therapeutic Swimming Program was to provide the opportunity for students to improve physically, socially, and recreationally. Due to the age range of students (ages 5 - 21) and the variety of handicapping conditions, the swimming program varied widely from school to school depending on the needs of students.

Some commonalities were observed. Typically, all programs used the I CAN program (Wessel, 1976) as a base for the swimming program. The I CAN program is built on a sequential set of individualized physical education objectives which are progressively more difficult. Adapted physical education teachers adapted the program to students at their respective schools. For instance, in schools with many students with communication disorders, not only was emphasis placed on physical activity but a concentrated effort was also made to provide opportunities for spontaneous language.

EVALUATION DESIGN

Development Of The Study

In January of 1986, a group of Central Office Administrators met with administrators from Planning, Research and Accountability (PRA) to prioritize the 35 P.L. 94-142 components for study. The P.L. 94-142 Therapeutic Swimming Program was considered to be a priority for study by the Special Education Department. Hence, it was initially studied in May and June, 1986. Follow-up evaluation activities were conducted in the Fall of 1986.

The evaluator from PRA was assigned to study the impact and effectiveness of the program. The evaluator and an external contractor interviewed special education administrators, adapted physical education teachers, classroom teachers, physical therapists, orthopedic surgeons, kinesiologists, and recreation therapists to ascertain: (a) the rationale for the program, (b) the objectives of the program, (c) respondents' perceptions of the goals of the program, (d) respondents' perceptions of the effectiveness of the P.L. 94-142 Therapeutic Swimming Program, and (e) research questions that the interviewees would like to have answered.

Research questions to be addressed and methods of data collection were determined. Questions to be addressed were:

(1) What were the handicapping conditions of those students participating in the program?
(2) What benefits did students gain from the program?
(3) What impact did the program have on staff?
(4) What were the drawbacks or limitations of the program?
(5) What could be done to make the program stronger/more effective?

Data collection was accomplished through interviews, review of records, observations, and survey research. Each of these methods is briefly described.

Interviews. Group and individual interviews of special education administrators, special education teachers, adapted physical education teachers, aides, physical therapists, physicians, and rehabilitation experts were conducted prior to administering the survey and, in some instances, after the survey. Pre-survey interviews were designed to obtain background information on the rationale and intent of the program and to determine if the APS interviewees had questions they would like to have included in the study.

All suggested questions were addressed in the evaluation. Post-survey interviews were used to clarify issues raised in the surveys.

Review Of Records. Records in the special education files were reviewed to determine how the program evolved and was utilized. Adapted physical education teachers sent sample program recording forms and examples of students' Individualized Education Programs (IEP's) to the evaluator for review.

Observations. The contractor and evaluator spent a total of six days observing the P.L. 94-142 Therapeutic Swimming Program. Students from nine of the ten participating Side-by-Side schools were observed for at least one entire swimming session.

Survey Research. Two-hundred-seventy-six (276) APS administrators, principals, assistant principals, physical therapists, special education teachers, aides, and adapted physical education teachers were surveyed to ascertain perceived impact and effectiveness of the program. Comments were solicited regarding the benefits of the program, the limitations of the program, and how the program could be made stronger.

A total of 133 respondents (48.1%) returned usable instruments. Of those returning usable instruments, 57 (42.9%) were from elementary schools, 36 (27.1%) were from middle schools, 30 (22.6%) were from high schools, and 7.5% were from area offices. Interestingly, 118 (88.7%) were special education teachers and aides while 15 (11.3%) were administrators.

Rather than discuss the results of each data source in isolation, all information has been integrated according to topics throughout the discussion. The end result is a comprehensive picture of the effectiveness and impact of the program.

FINDINGS AND ANALYSIS

One of the major goals of this study was to create a profile of the students served. A second goal was to evaluate the impact of the program on students and staff. The accomplishment of each goal will be discussed separately.

Profile Of Population Served

Six-hundred-twenty (620) Side-by-Side students, or 85.63% of the total students in Side-by-Side programs, participated in the P.L. 94-142 Therapeutic Swimming Program. Table 1 (page 7) summarizes the number of students in the various primary exceptionalities at each site.

At the six elementary Side-by-Side sites, 359 students were served. Students with all primary exceptionalities were served except for deaf and deaf/blind handicapping conditions.

At the two middle school Side-by-Side sites participating in the program, 170 students were served. All exceptionalities except blind/deaf and hearing impaired were served.

At the two high school Side-by-Side sites, 195 students were served. Students with all exceptionalities except blind and deaf/blind were served.

Benefits Students Gained From The Program

Since the focus of the P.L. 94-142 Therapeutic Swimming Program was to help students improve physically, socially, and recreationally, Special Education administrators wanted to assess school-based staffs' perceptions of how the swimming program benefitted students.

Survey respondents were asked to list the three most significant benefits students received from the P.L. 94-142 Therapeutic Swimming Program. Responses from 133 APS staff are summarized in Table 2, page 8.

Table 1
Summary Of Students' Primary Exceptionality
At Each Side-By-Side Site* Participating In
P.L. 94-142 THERAPEUTIC SWIMMING

Primary Eligibility	SIDE-BY-SIDE SCHOOL								
	Elementary						Middle		High
	Atrisco	Chaparral	MacArthur	Mark Twain	McCollum	Montezuma	Madison	Taft	Manzano	Valley
1. Behaviorally Disordered	---	2	2	---	2	41	---	1	---	1
2. Blind	---	---	---	---	1	---	---	---	---	---
3. Communication Disordered	1	6	43	3	3	---	5	12	3	7
4. Deaf	---	---	---	---	---	---	---	---	1	---
5. Deaf/Blind	---	---	---	---	---	---	---	2	---	---
6. Educable Mentally Handicapped	8	15	4	---	19	---	17	16	24	20
7. Hearing Impaired	---	---	---	15	---	---	---	---	1	1
8. Learning Disabled	---	---	1	2	---	1	2	6	1	1
9. Multiply Impaired	21	9	4	11	12	5	20	35	3	12
10. Physically Impaired	---	6	1	39	5	1	12	4	23	3
11. Severely/ Profoundly Handicapped	17	---	---	---	11	---	2	9	16	10
12. Trainable Mentally Handicapped	13	7	2	---	27	---	15	17	33	30
Total Per School	60	45	57	70	80	47	72	98	110	95

*Out of 724 Side-by-Side students, only 620 students participated in the Therapeutic Swimming Program.

Sub totals by level
Elementary - Middle - High School
N=359 N=170 N=195

Source: Special Education Department

TABLE 2

BENEFITS FROM THE THERAPEUTIC SWIMMING PROGRAM
SUMMARY OF RESPONSES (N=133)

BENEFIT	# OF RESPONSES	% TOTAL RESPONDENTS
Physical (Movement, Endurance)	99	74.4%
Recreation and Leisure Time Skills	98	73.5%
Social	39	29.3%
Enjoyment	15	11.2%
Build Self-Confidence	15	11.2%
Work On Self-Help Skills	10	7.7%
Learn Water Safety	7	5.6%
Field Trip For Community Awareness*	6	4.5%
Language Development	5	3.7%
Learn to Swim	5	3.7%
Therapeutic (Prescribed Exercises)	5	3.7%
Learn Not To Fear Water	4	3.0%
Special Olympics Training	2	1.5%

*Some schools used the P.L. 94-142 Therapeutic Swimming money for field trips to expose students to various community resources. Swimming was one of several activities selected.

Of the 13 benefits cited, the three cited most frequently were:

(a) Physical benefits: students built strength and endurance. In some instances, with profoundly handicapped students, movement in and of itself was perceived as a benefit.

(b) Recreational Benefits And Development Of Leisure-Time Skills: students learned an activity (ranging from water play to swimming) they can enjoy now and later in life. (c) Social benefits: students learned to socialize or interact with each other more effectively in a non-school setting.

The variety of benefits cited by survey respondents indicates that different students benefitted from the program in very different ways. While more than 70% of the respondents indicated that students received physical, recreational, social, and leisure-time benefits, including learning to swim, learning water safety, working on self-help skills (e.g., dressing), building self-confidence, or enjoying the activity.

In a follow-up question, respondents were asked, "Do the benefits of the program outweigh time away from class?" The majority of elementary based respondents (78.9%) and middle school respondents (58.37%) indicated that, in their view, the benefits of the program outweighed the time from the classroom.

However, only 36.6% of high school respondents believed that the benefits of the Therapeutic Swimming Program outweighed the time away from class. The remaining 63.3% of high school respondents perceived that the time could have been better spent in the classroom. Nineteen (19) of 30 professional high school staff wrote comments best summarized by one teacher: "With all the skills handicapped students need to learn, swimming just is not a priority. Work-study skills and basic skills are just more important--especially at the secondary level."

Despite the reservations raised by some respondents, 77 (66.1%) indicated that, in their view, benefits of the swimming program outweighed the time away from class. In short, most opinions supported the P.L. 94-142 Therapeutic Swimming Program for Side-by-Side students.

Impact Of The
Program On Staff

The impact of the P.L. 94-142 Therapeutic Swimming Program on staff varied from school to school in terms of duties they were asked to perform. Some administrators required that the support staff (speech therapists, physical therapists, and occupational therapists) assist at the pool. In other schools, the responsibility for getting students to the pool, changing students' clothes, and assisting students in the pool fell primarily to classroom teachers and aides.

Thirty-two (32) or 24% of the respondents wrote comments that lifting students on and off busses, on and off changing tables, and in and out of the pool was hard on teachers and aides. Twenty (20) or 16.5% of the respondents stated that the program required more adult help with students in lifting students and helping students in the water. Twenty-two (22) or 16.6% of the respondents asked for inservice on how to lift students to prevent injury to themselves or to the students.

Despite these issues, 85 or 73.3% of the respondents felt that the benefits of the program for the students outweighed the problems for some staff members. The remaining 48 or 26.7% respondents felt that the hardship on staff did not outweigh the benefits of the program.

Concerns or Perceived Drawbacks/
Limitations Of The Program

During the course of pre-survey interviews, several concerns were raised by respondents. Hence, all those surveyed were asked to list the "three most significant drawbacks or limitations of the Therapeutic Swimming Program." Several concerns were raised in interviews as well. The responses are categorized and summarized in this section.

Instructional Issues - 27 or 20.3% of the respondents felt that there were not enough adults trained in adapted aquatics to assist with instruction in the pool. Seven (7) or 5.2% of the teachers observed that there was not enough equipment to meet the instructional needs of the swimming program (e.g., balls, kickboards, water wings).

Nineteen (19) or 14.2% of the teachers observed that students were too tired to concentrate when they returned from the swimming session which, in their view, had a negative impact on the instructional program.

Thirty-four (34) or 25.5% of the respondents observed that it sometimes appeared that swimming took priority over the regular instructional program. Twelve (12) or 9% of the respondents observed that instructional time was limited already. Swimming, in their view, was a low priority. Nineteen (19) or 14.2% of the high school teachers responding perceived that other programs (work-study, prevocational, basic skills) were more important, especially at the secondary level. One teacher's comment was representative of the high school teachers' perception: "With all the skills students needed to learn, swimming should not be a priority."

Seventeen (17) or 12.8% additional high school staff members suggested that swimming be used for field trips to develop community awareness or for community-based instruction (e.g., actual work-site experience rather than classroom simulation), not as a separate aspect of the curriculum. These respondents indicated that they felt the benefits students gained from the swimming program were not enough to warrant the time away from the regular program.

Physical Plant Issues - 13 or 9.7% of teachers and aides pointed out that parking, changing, and bathroom facilities at UNM were not adequate for students and staff. Also, restrooms were inaccessible for independent use by many students.

Safety Issues - 20 or 15% of the respondents felt that the program did not provide enough adult help to properly supervise students in and out of the pool. Thirty-four (34) or 25.5% teachers and aides noted that they were not trained aquatic instructors and that they were not trained for poolside emergencies.

Thirty-two (32) or 25% of the teachers and aides observed that loading students, dressing students, and lifting students had the potential for injuring students or adults.

Time Issues - Two questions on the survey focused on time issues. Respondents were asked: "How much time are your students actually in the water in an average therapeutic session during the year?"

Eighty-four (84) or 71.2% of the respondents indicated that their students were actually in the water 40 minutes or less. Another 28 or 23.7% of the respondents stated their students were actually in the pool for 41-50 minutes.

Respondents differed concerning whether or not time should be increased for the Therapeutic Swimming Program. Thirty (30) or 22.5% of the respondents wanted more actual time in the water.

Respondents were asked, "How much time do you spend away from class?" Almost fifty-seven percent (56.9%) of those responding, indicated that their students spent 1 1/2 hours or more away from the regular instructional program per therapeutic swimming session. Another 36.2% spent 51-90 minutes away from class. Thirty (30) or 22.5% of the survey respondents indicated that, in their view, the time away from class disrupted the school day. An additional 19 or 14.2% of the respondents wrote notes saying that students were too tired to concentrate when they returned from a swimming session.

Interestingly, 58.37% of the elementary and middle school respondents favored devoting more time to the therapeutic swimming program. However, the 63.4% of high school staff members perceived a need to spend more time in the classroom.

Training Issues - 16 teachers and aides indicated a desire for inservices on disability-appropriate adapted aquatic techniques that they can use with special education students. Several respondents noted that some aquatic activities could be physically detrimental to children with certain syndromes. An additional 22 teachers and aides specifically requested inservices on how to lift children to prevent injuring students and adults.

Suggestions To Make The Program More Effective

All those surveyed were asked to list (and explain) any suggestions they might have to make the program more effective. The responses are categorized and summarized in this section. The number of people making similar comments is noted in parentheses at the end of the comment.

Teachers and aides expressed a desire to receive inservice on:

(a) Proper lifting techniques to lift students in and out of water or on and off changing tables to prevent injury. (22)
(b) Provide training on adapted aquatics techniques for each school's special population. (16)

Other suggestions made by survey respondents included:

(a) Provide additional adult help for teachers and aides in lifting students. (23)
(b) Build therapeutic pools at each Side-by-Side or in quadrants of the city in cooperation with the City and County Park and Recreation Programs' Joint Use Agreement. (13)
(c) Staff needs additional time in the pool with the students. (13)
(d) Staff needs guidelines or a curriculum and time to plan with the adapted physical education teacher. (12)
(e) Offer the program in the summer or through Parks and Recreation after school. Do not use class time. (11)

SUMMARY AND CONCLUSIONS

The Therapeutic Swimming Program has been funded by P.L. 94-142 since the Spring of the 1984-85 school year. The objective of the program was to "provide therapeutic swimming to severely/profoundly handicapped students from District Side-by-Side programs." (1986 Plan, APS Application to the New Mexico State Department of Education for EHA-B Funds, p. 41).

This study was designed to evaluate the benefits students gained from the P.L. 94-142 Therapeutic Swimming Program as well as the program's impact on staff. It was also designed to evaluate the overall effectiveness of the program. Data collection took four forms: interviews, review of records, observations, and surveys.

The major findings of the study were:

(1) Over ninety-four percent (94.2%) of APS Side-by-Side staff surveyed indicated that 50% or more of their students participated in the P.L. 94-142 Therapeutic Swimming Program. According to special education records, approximately 620 students participated in the program.

(2) Ninety-nine (99) or 74.4% of the survey respondents indicated that, in their view, students derived physical benefits from the P.L. 94-142 Therapeutic Swimming Program. Respondents suggested that the physical benefits students gained included providing more opportunities for movement and enhancing physical fitness.

(3) Ninety-eight (98) or 73.5% of the survey respondents indicated that, in their view, students benefitted from the program recreationally. Recreational benefits included developing leisure-time skills for some students or providing other students a recreational outlet not available at the school site.

(4) Thirty-nine (39) or 29.3% of the survey respondents agreed that, in their view, students derived social benefits from the Therapeutic Swimming Program. Social benefits included helping students learn to socialize or interact with each other in a non-school setting.

(5) Seventy-seven (77) or 66.1% of those responding to the survey felt that the benefits of the swimming program outweighed students' absence from their usual instructional program. However, these findings were not consistent across grade levels.

(6) Respondents were asked to identify drawbacks or limitations of the Therapeutic Swimming Program. Recurring issues revolved around:

(a) Instructional issues - involving concerns about instruction at the pool's impact on the regular instruction were cited.
(b) Physical plant issues - inadequacies of UNM facilities were identified.
(c) Safety issues - supervision concerns and safety issues for staff and students were cited.
(d) Time issues - concerns regarding actual time in pool were listed.
(e) Training issues - specific topics for inservices were cited.

(7) Respondents were asked to "list any suggestions you have to make the program stronger/more effective." Responses included requests to:

(a) Provide intensive inservices on proper lifting techniques to lift students in and out of the water and/or on and off changing tables to prevent injury.

(b) Provide more adult help in lifting, dressing, and drying students.

(c) Provide training for therapists, teachers, and aides on disability-appropriate aquatic activities (e.g., some aquatic activities could be inappropriate or physically detrimental to students with particular syndromes).

Current APS policy insures that staff, including the project leader, will review the data and findings contained in this report. A plan which includes appropriate steps to address identified program needs will be implemented.

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